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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,366	11/05/2001	Roger O. Williams	514542000900	4850
25226	7590	01/26/2005		
MORRISON & FOERSTER LLP 755 PAGE MILL RD PALO ALTO, CA 94304-1018			EXAMINER HANDY, DWAYNE K	
			ART UNIT	PAPER NUMBER

1743

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/010,366	Applicant(s) WILLIAMS ET AL.	
	Examiner Dwayne K Handy	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 81-113 is/are pending in the application.
- 4a) Of the above claim(s) 81-98, 112 and 113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 99-111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 81-98, 112 and 113 are directed to inventions that are independent or distinct from the invention originally claimed for the following reasons:
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-25 and 99-111, drawn to a well plate, classified in class 422, subclass 102.
 - II. Claims 81-89, drawn to an acoustic ejection apparatus, classified in class 422, subclass 100.
 - III. Claims 90-98, 112 and 113, drawn to a method of dispensing, classified in class 436, subclass 180.
3. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination may use any plate having a well and capillary. The subcombination has separate utility such as storage of multiple samples in the wells.

Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to analyze samples.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 81-98, 112 and 113 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 4, 7, 13-19, 22-25, 99-102 and 104 are rejected under 35

U.S.C. 102(b) as being anticipated by Bjornson et al. (6,103,199 – “Bjornson”).

Bjornson teaches an apparatus for processing microfluidic samples. The apparatus is comprised of integral plates: One plate comprises an array of sample receiving elements while the other plate contains microfluidic networks and channels to process the samples. The embodiment most relevant to the instant claims is shown in Figures 8-10 and described in columns 26-27. As shown in these figures, a lower plate (752, 852) containing wells (750, 850) is mated to an upper plate (700,800) having a capillary (702, 802). When the plates are placed together, the capillary is placed in the corner of the well and into fluidic contact with the contents of the wells while remaining above the bottom of the well. Bjornson discloses capillary dimensions in column 11, lines 26-34. Capillaries of both hydrophobic and hydrophilic materials are disclosed in column 18, lines 33-53.

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8. Claims 1-4, 7-12, 15-19, 24, 99-106 and 108-111 are rejected under 35 U.S.C. 102(e) as being anticipated by He et al. (US 2003/0049862 – “He”). He shows a biological assay device comprised of a fluid transfer element and a well plate. It is best shown in Figures 2-6B and described on pages 3-4, paragraphs [0037]-[0041]. The fluid transfer element is comprised of a plate (10) with a number of fluidic modules (20) extending from a surface (12). Each module (20) has a microcolumn (22) of capillary dimensions ($\leq .55$ mm) for passing fluid to or from the plate through the modules. When the plate (10) is placed onto the well plate (2), the capillaries are in fluid communication with the wells while remaining a distance above the reservoir. Figure 2 shows a close up view of an individual microcolumn (22) comprised of a circular microchannel (30) having an enlarged conical end section (31) that is linear and expands at angle to the axis of the original channel. Materials of construction for the plate modules - including hydrophobic (polymer) and hydrophilic materials (glass) - are disclosed in paragraphs [0037],[0058] and [0059].

9. Claims 1, 2, 4, 7, 15-17, 20-22, 99-102, 104 and 107-109 are rejected under 35 U.S.C. 102(e) as being anticipated by Kane et al. (6,547,943 – “Kane”). Kane teaches a capillary system for analyzing materials in a well of a microplate. The embodiment of the device most relevant to the instant claims is described in column 7 and shown in Figures 1B and 1C. The device is comprised of a plate member (113) having capillaries (111) held in an array by integral holders (112). When the plate member (113) is lowered onto the well plate (116), the capillaries are in fluid communication with the

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wells while remaining a distance above the bottom of the well (115). Kane discloses silica capillaries and capillary diameter in column 5, lines 30-42.

10. Claims 1, 2, 5-7 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Frisina et al. (6,358,479 – “Frisina”). Frisina teaches a reaction block. The block (12) is best shown in Figure 4 and described in column 6. The block contains reaction wells (14) in fluid communication with ducts (50, 52) at an angle through the block.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Everett (US 2003/0026738), Schulte et al. (6,742,661), Barbera-Guillem (6,811,752), Singh et al. (6,627,406) and Parce et al. (6,627,858) teach microfluidic devices having wells fluidly connected to capillary channels.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K Handy whose telephone number is (571)-272-1259. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKH
January 21, 2005


Jill Warden
Supervisory Patent Examiner
Technology Center 1700